Remarks

This communication responds to the Office Action mailed July 13, 2007, for the application captioned above, the period for response to which is October 13, 2007. Claims 6, 14-26 and 29-31 are pending in the application. Claims 1-5, 7-13, 27 and 28 have been canceled. Claims 14, 22, 29-31 have been amended and new claims 32 and 33 have been added, antecedent basis for which exists throughout the specification. Upon entry of the present amendment, claims 6, 14-26 and 29-33 will be pending and in condition for allowance.

The courtesy of the Examiner in granting a personal interview to the undersigned on August 1, 2007 is appreciated. The following recordation of the substance of the interview is believed to be complete and proper, in accordance with MPEP 713.04. It is requested that the Examiner notify the undersigned if she believes this Statement contains any inaccuracies or if the Examiner believes the Statement is otherwise not complete and proper.

Interview participants: (1) Examiner Barnhart; (2) Applicant's attorney, Philip M. Goldman; (3) Applicant's law clerk, Carrie Olson.

In the course of the interview, Applicant's attorney explained the manner in which Applicant's previous amendment was directed to both the rejection before it, and to the present rejection as well. In particular, the interview involved a general discussion regarding whether the cited references either teach or suggest a cell suspension as presently described and claimed, and in turn, the manner in which the cell suspension is claimed with sufficient particularlity for the Examiner. No other pertinent matters were discussed during the interview.

The rejection under 35 U.S.C. 112 is traversed and/or rendered moot by the amendment and/or remarks provided herein.

Claim 29 has been editorially amended to provide antecedent basis for cell conglomerates, and to distinguish as between xenogenic serum and cell conglomerates.

With regard to "xenogenic serum" it seems quite clear that those skilled in the art, particularly with increased focus on "autologous" tissue and the like, will understand that this term refers to the avoidance of ingredients such as bovine serum albumin, a common additive in grafting culture media and one that has the potential to cause infective and hypersensitivity problems.

In turn, the rejection of Claim 6 is respectfully traversed, since those skilled in the art will clearly understand the meaning of "autologous" as referring to the patient undergoing skin grafting, him or herself.

Finally, the Examiner's suggestions regarding claims 14, 22, and 30(a)-30(c) have been addressed by the amendment above.

The present invention relates to a unique cell suspension for use in grafting, including a method of preparing and a method of using such a suspension. The suspension is prepared by a method that includes obtaining tissue sample, dissociating cells from the sample, harvesting the dissociated cells, and filtering and optionally diluting the harvested cells to form a suspension that can be used to treat a patient in need of a graft. In turn, the resulting suspension can provide an array of benefits as compared to previous approaches, including an optimal combination of time and ease of preparing the suspension, and in turn, the time and flexibility of its use.

The amended and new claims attempt to address the Examiner's concerns, and now clearly provide unique features of the suspension, brought about as a result of the method of its preparation, though now in a manner that must be accorded patentable weight. These include the fact that the suspension is a) free of xenogenic serum and b) cell conglomerates, c) the cells

remain viable, and d) the suspension is suitable for direct application to a region on a patient undergoing tissue grafting.

In turn, new claims 32 and 33 relate to intermediate, and similarly novel stages, in order to focus attention on the suspension at two key stages of its preparation, and in turn, provide features that again can be more easily accorded patentable weight.

The array of references cited fail in at least one, and generally several ways, to teach or suggest these and other various features of the invention. For instance, none of the cited references appear to teach the direct application of a cell suspension, or in turn, the preparation and use of a cell suspension for grafting, particularly in the manner presently claimed. In addition, neither Osborne, Noel-Hudson, nor Suzuki teach the presence of a xenogenic serum, and Katz is quite uncertain in this respect, while neither Lucas, Suzuki, or Katz appear to describe the use of skin cells such as keratinocytes at all.

The rejections under Section 102 are respectfully traversed. Yannas et al. (U.S. Patent No. 4,418,691) teaches a technique following the method of Green. However, the cells are then placed into a template for subsequence application to a defect. The cells are expanded in culture prior to the secondary harvest. The method of the present invention does not require these steps, or other aspects of the Yannas et al. technique.

Suzuki et al. (EP 0 350 887) provides a serum free method for the production of cardiac, which does not appear to be applicable to keratinocytes.

Hirobe (Journal of Cellular Physiology, 152: 337-345, 1992) describes the role of epidermal components in the induction of melanocyte differentiation by Melanocyte Stimulating Hormone (MSH). In particular, the focus of this article was to investigate which substances produced by keratinocytes were responsible for regulating the proliferation of mammalian

melanocytes. Although Hirobe suggest that the culture system was serum free, on page 338, column 1, paragraphs 1 and 2, the primary culture mediums developed for culturing keratinocytes and melanocytes both contain Bovine Serum Albumin (BSA) at a concentration of 1 mg/ml. In addition, the method of cell culture requires culturing of the cells for up to 12 days, replacing the medium four times per week.

In contrast, the present application discloses a nutrient solution free from xenogenic (e.g. BSA) serum. The present invention discloses a unique cell suspension and method for its preparation that is rapid, efficient and simple to prepare and apply. The inventors have also found that by removing xenogenic serum from the cell suspension, there is less chance of transmission of infection and reaction between a patient and the serum. Further, the tissue sample used to isolate the cells in the suspension is removed from the enzyme solution (e.g. trypsin) before the cells are harvested.

Noel-Hudson et al., In Vitro Cell and Developmental Biology - Animal 31: 508-515 relates to the technique of harvesting cells for the development of skin constructs, by seeding human keratinocytes onto culture cell membranes. The method of Noel-Hudson, et al, is not designed for the use of cells in a suspension for treatment of a wound, nor in turn, does Applicant's method require the need to culture cells.

Lucas et al. (U.S. Patent No. 5,328,695) merely discloses a system of stimulating cells, though neither teaches or suggests the use of such cells as a direct therapy.

Lavker et al. (U.S. Patent No. 5,556,783). This document teaches a suspension of cells that are harvested from cell culture on 3T3, according to the known method of Green, and that in turn require a layer of feeder cells. This is one of the steps which the method of the present application does not require.

Katz, et al. (U.S. Patent No. 5,786,207) discloses a tissue dissociating system and methods for use. The document neither teaches nor suggests a cell suspension therapy as taught in the pending claims.

Osborne et al., Biomaterials 20: 283-290 (1999). This paper describes a 3D composite skin reconstruction. The cells are passaged three times, and the process requires the use of a dispase/trypsin combination, prior to use.

Dennis et al. (U.S. Patent No. 6,207,451). This document does not use cell suspension as a direct therapy. It is focused on the 3D muscle organisation *in vitro*.

Hence it can be seen that the present claims, properly and fully considered, provide a number of distinctions over each of the cited references. Reconsideration of the rejections and allowance of all pending claims at an early date is respectfully requested. Applicant believes no additional fees are due, however, the Commissioner is hereby authorized to charge any additional fees required to Deposit Account No. 061910.

Respectfully submitted,

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